

**King County
Flood District Advisory Committee
May 28 – 9 a.m. to 11 a.m.
Kent Senior Center**

Meeting Agenda

Meeting Facilitator: *Margaret Norton-Arnold*

9:00 a.m. Welcome and Meeting Overview

- *Agenda Review*

9:10 a.m. 2009 Capital Work Program

- *Capital Project Evaluation approach: flood risk and implementation factors*
- *2009 Preliminary Recommendations*
- *6-Year CIP Preliminary Recommendations*
- *Cost Model Assumptions*

10:00 Break

10:10 2009 Operating Budget and Programmatic Activities

- *Review of Programmatic elements proposed for 2009*
- *Operating Budget Assumptions*

10:50 Next Steps

11:00 Adjourn

**King County
Flood District Advisory Committee
Preparation and Discussion Guide
May 28, 2008**

At the May 8th meeting staff presented an overview of the proposed capital and operating elements of the District's work program for 2009. At the May 28th meeting staff will present more detailed budget information and cost assumptions for the work program. A proposed 6-year CIP and cost assumptions has been provided, along with an overview of the proposed 2009 capital program to help place individual projects in the context of the overall flood risk reduction strategy in each basin. You have also been provided with a 6-year financial plan that includes both capital and operating expenditures.

On May 28th we will take a 'temperature read' on the capital and operating elements of the work program in preparation for a final recommendation to the Board of Supervisors at the next meeting in late June or early July. During the June/July meeting we will also select a chair and vice-chair, adopt by-laws for the Committee, and discuss options for a policy on the acquisitions and the use of eminent domain.

**King County
Flood Control Zone Advisory Committee
Meeting Report**



May 8, 2008

Meeting Attendees

Committee Members

Richard Bonewits, King County Unincorporated Area Councils
Tim Clark, City of Kent
Grant Degginger, City of Bellevue
Mike Flowers, City of Carnation
Bruce Harrell, City of Seattle
Kenneth Hearing, City of North Bend
Layne Barnes, City of Maple Valley
Matt Larson, City of Snoqualmie
Joan McBride, City of Kirkland
Bill Pelosa, City of Auburn
Michael Park, City of Federal Way

**King County Department of Natural Resources and Parks, Water and Land
Resources Division Staff**

Steve Bleifuhs, River and Floodplain Management Unit Supervisor
Sandy Kilroy, Regional Services Section Manager
Brian Murray, Advisory Committee Project Manager
Joanna Richey, Deputy Director

Committee Staff

Margaret Norton-Arnold, Facilitator
Amanda Sparr

Meeting Overview

The second 2008 King County Flood Control Zone District (FCZD) Advisory Committee meeting was held on Thursday, May 8, from 1 p.m. to 4:00 at Renton City Hall. This was the second of three meetings scheduled for Spring 2008; a fourth meeting of the committee will be scheduled for late June or early July.

The primary focus of the meeting was a preliminary review of the District's proposed 2009 Capital Improvement Projects, as well as the District's operational programs and budget. The Advisory Committee also reviewed and commented on a set of draft bylaws for their future work together.

Subregional Opportunity Fund

Final Vote: On April 4, the Advisory Committee had unanimously agreed, through a “temperature read” process, on the following:

- 1) The 10% Subregional Opportunity Fund should be allocated back to jurisdictions in proportion to what each jurisdiction contributes through its tax base to the Flood Control Zone District. In unincorporated areas of King County, the funding allocation will be apportioned based on assessed value to the Potential Annexation Areas and the remaining unincorporated areas of King County.
- 2) Jurisdictions should have flexibility to determine which types of activities they wish to finance with these funds, so long as those activities are consistent with RCW 86.15.
- 3) Jurisdictions should have flexibility to determine where these funded projects should be located.

The Advisory Committee took final votes on all three of these issues, and, again unanimously supported them.

Temperature Read: 2009 Capital Projects list

Brian Murray presented the committee with the list of proposed Capital Improvement projects for 2009. The project list had been determined based on the use of the criteria rating system, and had been developed in cooperation with the Basin Technical Committees (BTCs). A copy of Brian’s PowerPoint presentation was provided to all committee members.

Included in this evaluation were modifications to incorporate regional economic benefits into the scoring criteria. The BTCs had proposed using three sources to identify regional economic benefit areas: the Puget Sound Regional Council’s (PSRC) designated employment centers, PSRC-designated manufacturing and industrial centers, and the Washington State Department of Transportation’s (WSDOT) Strategic Freight Corridors identified as T1 and T2 routes.

There was some concern among the committee that the use of these designations would prove to be unfair to smaller cities, since they would not generally be included in the PSRC clusters or along the strategic freight corridors. Brian explained that the economic impact portion of the evaluation is worth 5 points of 38, so it is a relatively minor proportion of the overall evaluation. Brian commented that the state also has identified T3 routes, the third tier of Washington State Department of Transportation’s identified strategic freight routes. Adding these to the criteria for regional economic benefit areas would essentially include all cities within King County.

In general, the Advisory Committee supported the list of projects and felt that the rationale for selecting those projects was sound. There were questions, however,

about the use of condemnation powers, should an unwilling seller be standing in the way of an important project that would have significant benefits toward flood control protection. Although King County has maintained a policy of only working with willing sellers, virtually all of the Committee members believed that condemnation authority should be exercised when and where needed: *We shouldn't be held hostage to one unwilling seller if the project is otherwise ready to be implemented, and if that project will have significant benefits.*

A broader question was also raised: What are the underlying policies that guide, not only condemnation authority, but any property acquisition that may be required? What policies does King County use to make these determinations?

Brian said that he would provide members with those existing policies, and that the Committee may want to further discuss these at a future meeting.

In a temperature read, all of the Committee members said that they generally agreed with the economic evaluation criteria as it had been developed, but they also urged the County to take into account WSDOT's T3 lines in order to further highlight the detrimental impacts of flooding on smaller cities throughout the County.

Committee members were also unanimous in wanting further clarification, and a strengthening of, the policy that guides the use of condemnation authority for critical property acquisitions.

Nine out of the ten Committee members said that they agreed with the list of Capital Improvement and Buyout projects for 2009. They further stated that they are eager to also review the budgetary implications of the project list. One Committee member was unwilling to endorse the project list until those budget numbers are provided.

The anticipated budget to fund all of the projects on the 2009 list will be provided to members in advance of the May 28 meeting.

Temperature Read: 2009 Programmatic Activities

Steve Bleifuhs presented information on the District's programmatic budget. In addition to the CIP program, 20% of the district's budget is used to fund efforts such as flood preparedness, the regional flood warning center, flood recovery assistance, flood hazard assessments, mapping and technical studies, planning, grants, mitigation, public outreach, resource management, annual maintenance, and facility monitoring. Committee members were provided with a copy of Steve's PowerPoint presentation.

Another important component of this programmatic work is the acquisition of grant funding and partnering with various other agencies at the federal, state, and city levels. Steve described the grant partners that have linked with the King County Flood Control District.

A question was raised about the ongoing maintenance of flood control facilities – those that are older in the system and those that are proposed to be constructed. Steve replied that the increase in District funding will also result in an increase in facility inspections, which will substantially improve maintenance over the long term.

In response to another question, Steve responded that a five-year maintenance and operation cost is built into each of the capital improvement projects. The County will provide more details on the programmatic budget prior to the May 28 meeting.

A committee member wanted to make certain that the flood warning and emergency notification efforts already in place in local cities are not duplicated by King County. Steve said that the County is alert to this possibility, and is coordinating closely with local jurisdictions to make certain this is not the case.

In a temperature read, Committee members generally supported the programmatic work program, but requested additional budget information prior to the May 28 meeting.

Temperature Read: Draft Committee Bylaws

The Committee will vote to approve the bylaws, and elect a chair and vice-chair, at the May 28 meeting.

Margaret reviewed a set of draft bylaws for the Committee, and in a temperature read, Committee members unanimously supported the draft bylaws. One member noted, in particular, that the bylaws do not call for a formal “Robert’s Rules of Order” process, and he strongly urged the committee to remain operating at a less formal level, noting that this encourages more in-depth discussion and the ability to really listen and respond to one another.

Margaret asked any Committee members who are interested in serving as the chair or vice chair to contact Brian Murray prior to the May 28 meeting.

2008 Advisory Committee Schedule and Work Program

Upcoming meetings for the FCZD Advisory Committee are as follows:

May 28: Review recommendations for the CIP list and programmatic budget.

June/July: Finalize recommendations on 2009 work program and budget; elect chair and vice-chair; adopt by-laws; review acquisition policies.

Brian Murray asked that Committee members contact him if they are interested in taking a tour of any of the FCZD project areas. This could easily be arranged in association with one of the upcoming meetings.

An annual report will be submitted to the Board of Supervisors in August; the Committee will review this report prior to its being submitted to the Board. The Committee will reconvene in October to hear about progress made on the 2008 Capital Improvement Projects.

Proposed 2009 Capital Work Program Overview
King County Flood Control Zone District Advisory Committee
May 28, 2008

Capital projects proposed for the 2009 work program continue to address high priority flood risk reduction needs through rehabilitation of flood protection facilities and acquisition and removal of floodprone structures throughout King County. Proposed projects were reviewed by the Basin Technical Committees and scored against flood risk reduction factors (consequences, severity, and urgency) to prioritize projects across the county; implementation factors such as readiness and leveraging were then evaluated to determine how to sequence high-priority projects over the 6-year CIP timeframe. By evaluating flood risk reduction and implementation factors, appropriate strategies can be developed to ensure that high priority projects are implemented and any constraints are identified and addressed.

This memo describes how the proposed 2009 capital projects support flood risk reduction objectives in each basin. Project descriptions, costs, and project evaluation results are provided on separate handouts. This memo also includes a brief discussion of how the Advisory Committee may wish to consider projects that have a high implementation potential but moderate flood risk reduction benefits.

Green-Duwamish Basin

Many of the lower Green levee setback and rehabilitation projects have a high flood risk reduction benefit with a moderate to low implementation score. For the lower Green, the 2009 work program focuses on addressing implementation constraints related to landowner willingness. We propose to implement these levee rehabilitation projects using a phased approach beginning with acquisition of rights-of-way and initiating design and permits in 2009, followed by the construction of levee setbacks, flood benches, and finally in-water work to reconstruct the toe of the levee. While the flood risk reduction scores of the lower Green projects are similar, the implementation factors varied due to landowner willingness. The Briscoe 1-3 and 5-8 levees (separate but adjacent to the completed Briscoe #4 levee) on the right bank of the Green River, for example, will require easements from the City of Kent and no significant implementation barriers are anticipated. However, the land on the left bank is in private ownership and may pose greater challenges for implementation. For this reason, the 2009 work program is focused on obtaining the rights-of-way necessary to proceed with construction on both the left and right bank projects (specifically, the Briscoe 1-3, 5-8, Desimone 1-4, and Segale 2-4 levees). Based on the results of these real estate negotiations, projects on the Lower Green River may need to be sequenced differently starting in 2010. From a flood risk reduction perspective, however, it is important to note that levee rehabilitations

will need to proceed on both banks of the lower Green and the work program currently assumes the first phase of construction (setback of the levee) will occur in 2010 for each of these projects.

Additional projects along the Green and Duwamish Rivers include the Riverside Estates/Reddington project to reduce flood risks to protect a residential area in the City of Auburn by setting back the Reddington levee and replace a flap-gate and culvert. Negotiations with the owner of the Riverside Estates mobile home park have been productive and the owner is interested in providing the property interests needed to begin the project. Also, the South Park Duwamish Backwater Inundation project will install a pump station in south Seattle during 2009-2010 to protect an industrial and commercial area and several major roadways from flooding caused by inadequate drainage during high tides.

Cedar-Sammamish Basin

In the Cedar-Sammamish basin, the objective is to focus on two types of activities:

- (1) Reducing flood velocities and volumes that threaten critical public infrastructure (SR-169, regional fiber-optic lines, and the Cedar River Trail), residential dwellings, and limit access for residents and first-responders.
- (2) Reducing public safety risks associated with neighborhood-scale flooding and channel migration

The first objective is addressed through a series of projects that acquire floodprone structures and setback or remove levees to increase the flood storage and conveyance capacity of the Cedar River. The Cedar Grove Mobile Home Park Acquisition and Relocation project implemented in 2008 is an example of a large-scale buyout that, combined with other buyouts in this reach, enable levee setbacks to proceed (for example, the Rainbow Bend Levee Setback and the Elliot Bridge Levee Setback projects, which were also initiated in 2008). During 2009, we propose to implement both the Herzmann and Jan Road levee setback projects on the Cedar River. These projects require easements rather than acquisition of multiple parcels, and can readily proceed to construction. During 2009 we will also pursue acquisitions related to future capital projects as opportunities arise.

The second objective is addressed through two projects that evaluate hazard mitigation alternatives in high-risk neighborhoods. The first, in the Dorre Don and Byers Bend neighborhoods, will evaluate hazard mitigation alternatives (such as buyouts, elevations, or flood facility retrofits) in a frequently flooded residential neighborhood where existing levees are regularly overtopped. The Maplewood neighborhood faces a different hazard, as it is across the river from a landslide hazard area that could cause the river to abruptly change course into

the residential area. Significant slides occurred in 1987 in this area, and it is just downstream of the site of a landslide triggered by the Nisqually earthquake that resulted in a rapid channel migration. Based on the results of these hazard mitigation alternatives analyses, structural and non-structural solutions will be proposed to reduce the risks facing these neighborhoods.

Snoqualmie, Tolt, Raging, and South Fork Skykomish Rivers

The basic flood risk reduction strategy in the Snoqualmie basin is to strengthen and rehabilitate flood containment facilities while using non-structural solutions (elevations and buyouts) to reduce or eliminate risks. During 2009 work will continue on the South Fork Snoqualmie Levee System Improvements and the North Bend Area Residential Flood Mitigation projects, and we propose to initiate work on the Middle Fork Levee System Capacity Improvements to reduce channel constrictions that exacerbate flooding in and around North Bend. The 2009 work program also includes the buyout of a home in the City of Snoqualmie to complement the City's efforts to reduce flood risks along a frequently-flooded section of Railroad Avenue SE (City of Snoqualmie Natural Area Acquisition). Additional flood hazard mitigation efforts are scheduled in this area of Snoqualmie in 2014 to align with the City's flood risk reduction efforts.

On the Tolt River, the 2009 work program includes a proposed buyout and levee removal in the Sans Souci neighborhood, where seven homes are at risk of flooding, erosion, and rapid channel migration. In addition, the Lower Tolt River Acquisition is proposed to maintain and enhance our ability to setback the Frew levee in this reach within the City of Carnation where the existing levee and berm are frequently overtopped. Work will also continue on the Tolt River Supplemental Study, a 2008 project to evaluate the combined flood risk reduction effects of levee setback projects proposed on the Tolt River. Study results will be used to help sequence and design levee setback projects currently sequenced later within the 6-year CIP.

The 2009 work program also includes buyout and removal of several residential structures in and around the Alpine Manor Mobile Home Park on the Raging River. This area is within a severe channel migration hazard area, and poses a high risk to residents. Completion of this project is necessary before an upstream channel constriction can be removed in 2011.

On the South Fork Skykomish, the 2009 work program includes completion of projects initiated in 2008 to protect a section of the Old Cascade Highway on the Miller River that is threatened by channel migration, as well as buyout of floodprone residential structures near the confluence of the Miller and Skykomish Rivers. Staff are also pursuing a FEMA grant to buyout or elevate floodprone homes in the Timberlane neighborhood in 2010.

White River

The work program will focus on the Countyline to A Street levee setback project, along with buyouts of residential structures at high risk of flooding and channel migration (White-Greenwater and Red Creek Acquisitions). No new projects are proposed on the White during 2009.

Proposed Approach to Projects with High Implementation Potential and Moderate Flood Risk Reduction Benefits

At the May 8th meeting staff described two projects that provide moderate flood risk reduction benefits but high implementation potential. Because projects in this category have moderate rather than high flood risk benefits, the Advisory Committee may wish to constrain expenditures in this category in one or more of the following ways:

- Projects below a specified flood risk reduction percentage should leverage more than two dollars for every District dollar.
- Projects below a specified flood risk reduction percentage should not exceed a maximum dollar amount.
- The cumulative total of projects below a specified flood risk reduction percentage should not exceed more than a specified percentage of the District's capital expenditures in a given year.
- Projects scoring below a specified percentage should not be eligible for District funds.
- In weighing whether these projects should be funded, the Advisory Committee should consider other higher scoring projects that may have to be re-sequenced if these projects receive funding.

At this time staff recommend that the capital program focus on implementation of projects scoring above 66% on the flood risk reduction scale. The Advisory Committee may wish to consider projects scoring between 52% (the threshold for inclusion in the 10-year financial plan) and 66% if minimum standards for leveraging and readiness are addressed.

King County Flood Control Zone District Financial Plan (000s)

23-May-08

	2008	2009	2010	2011	2012	2013	2014	Total
Beginning Fund Balance								
Revenue								
Levy	\$33,607	\$34,746	\$35,415	\$36,167	\$36,990	\$37,910	\$38,523	\$253,358
ICRIF	\$50	\$52	\$53	\$54	\$55	\$56	\$57	\$376
Grants	\$2,612	\$1,200	\$1,315	\$1,351	\$1,387	\$1,425	\$1,464	\$10,752
Interest Earnings	\$94	\$93	\$32	\$68	\$186	\$176	\$79	\$730
Less Operating Transfers	(\$5,849)	(\$6,150)	(\$6,467)	(\$6,800)	(\$7,150)	(\$7,518)	(\$7,905)	(\$47,839)
Total Capital Revenue	\$30,514	\$29,941	\$30,348	\$30,840	\$31,468	\$32,049	\$32,218	\$217,377

Expenditure								
Capital Construction								
Snoqualmie River Basin	\$6,198	\$11,940	\$10,595	\$15,137	\$7,143	\$5,173	\$15,612	\$71,799
Cedar River Basin	\$7,530	\$3,893	\$3,321	\$5,016	\$6,615	\$20,042	\$9,526	\$55,944
Green River Basin	\$4,528	\$15,497	\$11,477	\$5,676	\$6,963	\$10,046	\$1,779	\$55,965
White River Basin	\$2,803	\$685	\$20	\$0	\$0	\$0	\$0	\$3,509
Construction Subtotal	\$21,059	\$32,015	\$25,413	\$25,829	\$20,721	\$35,261	\$26,918	\$187,217
Maintenance/Monitoring	\$4	\$34	\$203	\$236	\$329	\$413	\$487	\$1,705
Project Contingency	\$860	(\$860)	\$0	\$0	\$0	\$0	\$0	\$0
Subregional Opportunity Fund	\$3,361	\$3,475	\$3,541	\$3,617	\$3,699	\$3,791	\$3,852	\$25,336
Total Capital Expenditure	\$25,284	\$34,664	\$29,158	\$29,681	\$24,749	\$39,465	\$31,257	\$214,258

Ending Fund Balance	\$5,231	\$507	\$1,697	\$2,856	\$9,575	\$2,159	\$3,119	\$3,119
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Assumptions

1. The model contains only King County costs and revenue. Costs covered by and revenue supplied by agencies partnering with King County to complete projects (e.g. US Army Corps of Engineers flood damage repair funding of \$14 million) not included.
2. Expenditure Inflation Rate assumptions from OMB
3. Grants revenue - from 2006 King County Flood Hazard Management Plan dated January 2007, page 318.
4. Capital costs primarily from a) the 2006 King County Hazard Management Plan (appendix G), as well as b) preliminary damage assessments from November 2006 flood disaster, and c) regional projects selected through the the KCFCZD Basin Technical Committees. Cost assumptions are provided on a separate handout.
5. Operating Costs include 34 FTEs, plus start up and ongoing costs for operations.
6. Funding for flood emergencies to be provided in any one year from a) unprogrammed revenue in Levy fund or b) the existing appropriation in the capital fund by delaying one or more scheduled projects.
7. Interest earning calculated on average of beginning and ending fund balance.

King County Flood Control Zone District Advisory Committee Overview of Capital Project Cost Model Assumptions

How do we generate planning-level cost estimates?

- Costs estimated for each phase of capital projects (design, permitting, construction, etc)
- Assumptions for each phase are shown in Table 1
- Easement costs may vary considerably depending on the impact to the land use at the site
- Capital project costs estimated based largely on King County Water and Land Resources Division experience with flood hazard reduction projects
- Capital project cost assumptions will be refined based on actual costs as the District's work program is implemented to provide the most accurate possible estimates.

How are costs allocated over time?

- Project durations range from 1-6 years
- Cost allocations over time are based on previous capital project implementation experience by the Water and Land Resources Division
- Design and permitting assumed in Year 1 for projects of 1-3 year duration; 4-5 year projects allocate costs evenly over Years 1 and 2; Lower Green river 6-year projects assume a small percentage of permitting costs in Year 3 to complete in-water permits necessary for levee toe construction.
- Acquisition costs occur in Year 1 for projects of 1-4 year duration. Costs split evenly over Years 1 and 2 for projects with a duration of 5-6 years.
- Construction and construction management costs are allocated 100% to the final year of projects with durations of one or two years. For projects of longer durations, costs are spread over the final 2-3 years of the project.

How are costs inflated over time?

- Real estate and construction inflation variables are based on forecasted budget assumptions from the Office of Management and Budget. As part of the King County budget review and transmittal process, numbers will be updated to reflect current economic assumptions and technical adjustments at the time of transmittal.
- Acquisition costs inflation rate assumptions are 8.9% (2008), 7.6% (2009), 6.8% (2010-2014)
- Capital cost inflation rate assumptions are 5.6% (2008) and 2.8% (2009-2014)

Table 1: King County Flood Control Zone District Capital Project Planning Level Cost Estimation Assumptions

Capital Project Element		Cost Assumption	Rationale
Technical Studies	Geomorphic and hydraulic studies	5% of construction cost	Based on engineering industry standard
Design & Permitting	Project design; local, state, and federal permits	30% of construction cost for projects less than \$300,000; 20% of construction cost for projects greater than \$300,000 and less than \$1 million; 15% of construction cost for projects greater than \$1 million	Benchmark based on past King County Water and Land Resources experience
Acquisition	Parcel Purchase Price	120% of assessed land & improvement value. For the Lower Green River assumed \$490,000/acre for ROW due to higher land values in commercial and industrial areas.	Benchmark based on past King County Water and Land Resources experience
	Acquisition Overhead	10% of parcel purchase price plus \$5000/parcel	Benchmark based on past King County Water and Land Resources experience
Construction (related to Home Buyouts)	Demolition	\$35,000 /structure	Benchmark based on past King County Water and Land Resources experience
	Mobile Home Demolition & Relocation Costs	\$46,000/structure	Benchmark based on past King County Water and Land Resources experience
	Elevations	\$80,000/structure	Benchmark based on data and experience from King County and the City of Snoqualmie
	Site Security (gates, fencing, etc)	\$2,000/parcel	Benchmark based on past King County Water and Land Resources experience
	Re-Vegetation	\$16,100/acre	Benchmark based on past King County Water and Land Resources experience
Construction (related to)	Flood Facility Retrofit Projects	\$1,200/lineal foot	Benchmark based on past King County Water and

Flood Facilities)				Land Resources experience
	Post-construction Survey and As-Built Drawings	\$5,800/project		Benchmark based on past King County Water and Land Resources experience
Project Management	Construction Management and Inspection	15% of construction costs		Benchmark based on past King County Water and Land Resources experience
	Acquisition	2% of Purchase Price		Benchmark based on past King County Water and Land Resources experience
Project Monitoring (5 Years Post-Construction Permit Requirement)	Data Collection and Reporting	\$650/disturbed acre per year for 5 years		Benchmark based on past King County Water and Land Resources experience
	DDES Review	\$600/project per year for 5 years		Benchmark based on past King County Water and Land Resources experience
Maintenance	Management	\$960/disturbed acre per year for 5 years		Benchmark based on past King County Water and Land Resources experience
	Work Crew	\$575/disturbed acre for 5 years		Washington Conservation Corps
	Vegetation Replacement Cost	\$1,610/disturbed acre per year (10% of revegetation costs) for 5 years		Benchmark based on past King County Water and Land Resources experience
	Irrigation Cost	\$2,300/disturbed acre for 3 years		Benchmark based on past King County Water and Land Resources experience
1% for Arts		1% of Design, Construction, and Contingency for Arts		Required under KCC 4.40